

WHAT IS CLAIMED IS:

1. A folding electric device comprising:

an upper unit;

a lower unit; and

a hinge that connects said upper unit to said lower unit,

wherein said hinge comprises:

a perpendicular opening and closing shaft with two ends to open and close said upper unit with respect to said lower unit; and

a horizontal rotation shaft, fixed vertically to a surface of said lower unit, to rotate said upper unit with respect to said lower unit coming in contact with each other.

2. The folding electric device as claimed in claim 1, further comprising a winding flexible board, wound around one of said ends of said perpendicular opening and closing shaft, for electrically connecting said upper unit to said lower unit,.

3. The folding electric device as claimed in claim 1, further comprising a winding flexible board, wound around said horizontal rotation shaft, for electrically connecting said upper unit to said lower unit.

4. The folding electric device as claimed in claim 2 or 3, further comprising an operation input section, mounted on said hinge and electrically connected to said winding flexible board so that a user can operate said operation input section when said folding electric device is in a folded state.

5. The folding electric device as claimed in claim 1, wherein said folding electric device is a folding mobile phone.

6. The folding electric device as claimed in claim 1, further comprising a display arranged on said upper unit.

7. The folding electric device as claimed in claim 1, further comprising input keys arranged on said lower unit.

8. A folding electric device comprising:  
  
an upper unit;  
  
a lower unit; and  
  
a hinge that connects said upper unit to said lower unit,  
  
wherein said hinge comprises:

a perpendicular opening and closing shaft to open and close said upper unit with respect to said lower unit;

a horizontal rotation shaft to rotate said upper unit with respect to said lower unit;

brackets fixed at opposites sides of said horizontal rotation shaft in a direction perpendicular to said horizontal rotation shaft and connected to said perpendicular opening and closing shaft in opening and closing shaft direction of said bracket;

(d) a base, on which said horizontal rotation shaft is mounted, fixed to said lower unit; and

(e) a mount provided between said brackets.

9. The folding electric device as claimed in claim 8, further comprising a winding flexible board, wound around one of the ends of said perpendicular opening and closing shaft, for electrically connecting said upper unit to said lower unit

10. The folding electric device as claimed in claim 9, further comprising a bobbin, arranged between said horizontal rotation shaft and said base, for winding said winding flexible board around said horizontal rotation shaft.

11. The folding electric device as claimed in claim 9, further comprising flexible board fixing member for fixing said flexible board to said hinge.

12. The folding electric device as claimed in claim 9, further comprising an operation input section, mounted on said mount, for electrically connecting to said winding flexible board so that a user can operate said operation input section when said folding electric device is in a folded state.

13. The folding electric device as claimed in claim 8, wherein said folding electric device is a folding mobile phone.

14. The folding electric device as claimed in claim 8, further comprising a display arranged on said upper unit.

15. The folding electric device as claimed in claim 8, further comprising input keys arranged on said lower unit.